

REMARKS/ARGUMENTS

Claims 1–19 are pending in the captioned application. Applicant has withdrawn claims 2–4 and 14–19 from consideration; hence, claims 1 and 5–13 are currently under examination. Applicant has amended claim 1 in response to the Examiner’s rejections as stated below.

This application has been subjected to continuing examination of the previously final rejection.

The Examiner has rejected claims 1 and 5–13 under 35 U.S.C. § 112, second paragraph, as “being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.”

Specifically, the Examiner states, “Claim 1, step i) remains vague and indefinite in reciting, ‘support particles ... being adapted for cell growth’ because it is unclear how the support particles are modified or adapted to support cell growth.”

In response, Applicant respectfully directs the Examiner’s attention to the specification at page 10, line 31 through page 11, line 17, which state how the particles

utilized in the methods of the present invention are treated and/or modified to permit cell growth. Applicant respectfully asserts that one of ordinary skill in the art, upon reading this specification would fully understand what is meant by this recitation.

The Examiner further states, "Claim 1, step ii) remains vague and indefinite in reciting, 'cells, adhering to said support particles' because it is unclear if Applicant intends for specific cell populations to form a complex, i.e. attached or bound or adhered, with the support particles. Specifically, claim 1, step ii) implies, but fails to distinctly define that the cells growing on support particles in step i) also adhere or attach to the support particles in the process, i.e. adherent cells."

In response, Applicant has amended claim 1 to recite that adherent cells are growing on the support particles. Support for this amendment is found at page 6, lines 25, *et seq.*, and entry of the amendment is respectfully requested.

Upon entry of the amendment, Applicant respectfully submits that the claim is now clear and overcomes the Examiner's rejection.

The Examiner further states, "Claim 1, step iv) is indefinite in being redundant in reciting, 'the said support particles'."

In response, Applicant has amended claim 1 by deleting “the”.

The Examiner further states, “Claim 1, step iv) is vague and indefinite in reciting, ‘a scintillant substance’ because it is unclear if Applicant intends to refer back to the scintillant substance recited in step i) or otherwise, intends use of additional scintillant substance other than that recited in step i). If Applicant intends to refer back to the scintillant substance recite in step i), ‘a’ should be replaced with ‘the’ or ‘said’.”

In response, Applicant has amended claim 1, step iv) by reciting “said”.
Applicant respectfully asserts this overcomes the Examiner’s rejection.

Further, the Examiner has stated, “Claim 1, step iii) remains ambiguous in reciting, ‘said radiolabeled reagent to become associated with said cells’ because it is unclear what Applicant intends to encompass in reciting, “associated” with respect to the cells and cellular process. Specifically, claim 1 is confusing because it is unclear what structural and functional cooperative relationship exists between the radiolabeled reagent and the cells and cellular processes therein, in order to thus, allow measurement of cellular process.”

In response, Applicant respectfully directs the Examiner's attention to page 7, lines 20, *et seq.*, for a discussion of the different way in which the radiolabelled reagent may become "associated" with the cells.

Specifically, as stated, "associated" can include transport into, or metabolism by, interaction with the cell surface, or binding with cell surface receptors.

Applicant respectfully submits that with the teachings of this invention, one skilled in the art can understand what is encompassed by this recitation.

In view of the foregoing, Applicant respectfully asserts the Examiner's rejections cannot be sustained and should be withdrawn.

The Examiner has rejected claims 1 and 5-13 under 35 U.S.C. § 102(e) as being "anticipated by Jessop (US Patent 6,524,786) for reasons of record."

Specifically, the Examiner states, "Jessop discloses scintillation proximity assays performed in multiwell plates wherein a charge-coupled device (CCD) is used in a detection step to image cellular processes in living and growing (proliferating) cells (see

Abstract, column 2, line 59 to column 3, line 11, and column 4, lines 4-37). Jessop teaches providing one or more different populations of living, growing, and adherent cells which are attached to support particles (particulates or beads) having surfaces capable of cell growth and carrying a scintillant substance (phosphor).”

The Examiner continues, “In practice, Jessop teaches introducing the adherent cells attached to scintillant particles in a medium, to massive surfaces such as separate vessels or wells of a microtiter plate (see column 3, lines 12-25 and lines 52-66). Thereafter, radioisotope-labeled reagent is added to the wells so as to monitor uptake (association) of the radioisotope by the growing culture cells in real time or dynamic mode. The radioisotopes include ^3H , ^{125}I , ^{14}C , ^{35}S , ^{56}Ca , ^{33}P , ^{32}P , ^{55}Fe , ^{86}Rb , ^{109}Cd , and ^{51}Cr (see column 3, lines 45-51 and Example 9). Cellular processes are measured by detecting light emission from the scintillant support particles as caused by the radioactive decay of the radioisotope label (see column 3, lines 26-44). The cellular processes tested include receptor binding assay, uptake, and biochemical response. Different concentrations of radioisotope label are incubated with different samples of cells in reaction vessels (see column 3, lines 64-67 and Examples 1, 6, and 7). Jessop provides that detection step may be performed by scintillation counting (see column 1, lines 47-60).”

In the previous Office action, Applicant pointed out that the Jessop reference neither discloses nor even suggests that populations of cells are “growing on support particles”.

In response, the Examiner has stated, “Contrary to Applicant’s argument, Jessop specifically teaches growing adherent cells on support particles in column 2, line 66 to column 3, line 25 and Example 9. Jessop provides in column 2, line 66 to column 3, line 25, that living cells attached to the surface of scintillant support particles carrying the phosphor are studied, measured, or assayed chemically or biochemically. The surface may be particulate, i.e. particles or beads, or they may be wall of a vessels or wells of a multiwell plate. Jessop exemplifies application of the assay method with growing or proliferating, adherent culture cells seeded on surface of wells of a Cytostar-T plate in Example 9. Accordingly, claims 1 and 5-13 are anticipated by the Jessop reference.”

In response, Applicant respectfully asserts that Jessop does not teach what the Examiner has stated, but merely teaches that living cells are attached to the support particles for study, measurement or assay. Applicant fails to see how the Examiner can equate such measurements of cells merely adhered to the support with the methods of the instant invention.

Indeed, Applicant respectfully asserts that the phrase “attach to” does not equate to “growing on”. Cells may be attached to, or may become attached to, beads or other particles with surfaces incompatible with cell growth by a number of means (such as electrostatic attraction) or specific means (e.g., lectin binding). However, cells will only grow and proliferate on surfaces, which are specifically treated by physical or chemical means to support long-term viability and growth of cells. Attachment or partial attachment of adherent cells to cell surfaces not prepared for cell culture where cells cannot fully spread and anchor, will lead to cell death by well-characterized phenomena (see e.g., Velentjin, et al. (Biochem. Soc. Trans. 32, pp 421–425 (2004)). Because of this, Applicant respectfully asserts that there is no disclosure nor even any suggestion that the cells are growing on the surfaces of Jessop, et al. While the cells may be exhibiting certain metabolic changes, and while those metabolic changes may be readily measurable, this is quite different from the instant invention.

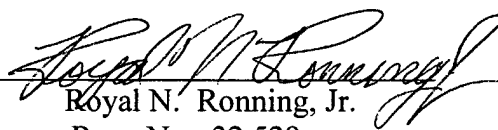
In view of the foregoing, Applicant respectfully asserts the Examiner’s rejections cannot be sustained and should be withdrawn.

Appl. No. 09/992,111
Amendment dated March 8, 2005
Reply to Office action of December 8, 2004

In view of the foregoing, Applicant respectfully asserts the Examiner's rejections cannot be sustained and should be withdrawn. Applicant believes that the claims, as amended, are in allowable form and earnestly solicit the allowance of claims 1 and 5-13.

Respectfully submitted,

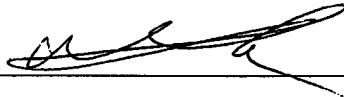
AMERSHAM BIOSCIENCES CORP

By: 
Royal N. Ronning, Jr.
Reg. No.: 32,529
Attorney for Applicant

Amersham Biosciences Corp
800 Centennial Avenue
P. O. Box 1327
Piscataway, New Jersey 08855-1327

Tel: (732) 457-8423
Fax: (732) 457-8463

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on March 8, 2005.

Signature: 

Name: Melissa Leck